MINISTRY OF THE ENVIRONMENT

VILLAGE OF ST. ISIDORE DE PRESCOTT

GROUND WATER SURVEY

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1976

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MINISTRY OF THE ENVIRONMENT

VILLAGE OF ST. ISIDORE DE PRESCOTT
GROUND WATER SURVEY

INTRODUCTION

At the request of the Manager of the Southeast Region, Project Co-ordination Branch, a ground-water survey was carried out in the area of the Village of St. Isidore de Prescott. The objective of the survey was to evaluate local ground-water conditions, to identify aquifers, and to determine aquifer potential with reference to the development of a municipal well-water supply for the Village of St. Isidore de Prescott.

The study was confined to an area within a radius of 2 miles (3 Km) of the village. The field work consisted of the examination of geologic features and the collection of well-water samples from selected domestic well-water supplies for chemical analyses.

The water well records used in the study are summarized in Table 1 and the well locations, which have been field checked, are shown in Drawing 1. The well numbering system used in this report relates to the permanent coding numbers of the Ministry of the Environment.

PRESENT SUPPLIES AND WATER REQUIREMENTS

Water supplies for residences of the Village of St. Isidore de Prescott are obtained from individually drilled and dug wells and from a communal well, referred to as the "syndicate well", which services the southern half of the village. The syndicate well is 3 inches (7.60 cm) in diameter and is completed in the overburden at a depth of approximately 128 feet (39.0 m).

The Public Utilities Commission of the village had five wells drilled to provide a municipal fire protection service. The wells serve as "standpipes" for drafting water. Three of the wells were test pumped at rates up to 83 gpm (6.3 l/sec.) for 2 to 3 hours.

An assessment of the future water requirements of the village was made by the Design and Equipment Section of the Environmental Approvals Branch in consultation with Regional staff. The 20-year village population was estimated to be 1065. Assuming

$\frac{1065 \times 100}{1440}$ → 73.9% instead of 92.

Possibly high!

a maximum-day to average-day demand of 2.5 and an average daily consumption of 110 gallons (500 l) per capita, the well-water supply for St. Isidore de Prescott should be capable of meeting an average-day demand of 92 gpm (6.9 l/sec.) and a maximum-day demand of 229 gpm (17.3 l/sec.). This requirement includes the anticipated school and industrial water requirements.

104880

329760

GEOLOGY

Bedrock

The study area is underlain by limestone and shales of the Eastview and Ottawa formations of the Ordovician Period of the Paleozoic Era. Drawing No. 3 shows the bedrock geology of the St. Isidore de Prescott area and was compiled from Geological Survey of Canada map 852A of the Ottawa-Cornwall area by A. E. Wilson.

According to Wilson, the Ottawa formation comprises grey shales interbedded with grey limestone and dolomite. It is overlain by the Eastview formation which is composed of thick beds of very dark grey, almost black limestone, interbedded at the base with thin bands of shale that become more abundant at the top. A small outlier of the Eastview formation, which may not exceed 20 feet (6 m) in thickness, occurs along the south limit of the village. One mile (1.6 Km) north of the village the Eastview formation is in contact with the Ottawa formation along a main fault system striking in a general east-west direction. The Ottawa and Eastview formations outcrop south and south-east of the village.

The regional bedrock surface is essentially flat and slopes gently northwestward. Locally, well log data indicate that the bedrock surface slopes northward at up to 33 feet per mile (6.3 m/km) beneath the village. A change in elevation of approximately 50 feet (15 m) across a distance of 1500 feet (480 m) occurs in the area where Wilson mapped the Eastview outlier. This sudden change in elevation may represent a structural feature such as a fault line scarp and may indicate that the fault that Wilson mapped north of the village swings further south. There are no bedrock outcrops immediately north of the village to locate the fault and the geological logs of the water wells cannot be used to differentiate between the formations.

Overburden

The village lies within the physiographic region of the Winchester Clay Plain according to Chapman and Putman.* The area is topographically very flat, and is dominated by the clay plains.

The overburden in the study area consists primarily of Pleistocene deposits of glacial origin. During the Wisconsinan glaciation the ice front advanced over the study area. Following the recession of the glacier the Champlain Sea occupied the St. Lawrence Lowland. The isostatic readjustment of the land's surface and the break-through of Lake Algonquin cut channels in the sands which had been deposited in the Petawawa area and redeposited them as a broad delta deposit east of Ottawa. These deposits can be seen north of the village, but do not occur in the study area.

The surficial materials in the study area consist essentially of clay which attains a maximum thickness of up to 150 feet (46 m), according to the log of Well 444, and averages 100 feet (31 m) within the boundaries of the community. The well logs indicate that within the immediate area of the village the clay is underlain by up to 10 feet (3 m) of sand and gravel. South of the village and the fault line scarp the water well logs do not report sand and gravel and the clay which varies in thickness from 60 feet (18 m) to 6 feet (2 m), appears to extend to the rock's surface. Southeast of St. Isidore de Prescott the overburden thickness decreases rapidly and rock is exposed in several areas.

HYDROGEOLOGY

Bedrock

Well water supplies for domestic use are obtained from bedrock aquifers in both the Ottawa and Eastview formations. The well yield from these formations appears to increase with the depth of penetration of the rock and the hydraulic characteristics of both formations appear to be similar. Neither formation NOTE appears to have the potential to yield large supplies of water. Most bedrock wells encounter sufficient water-bearing zones within the first 40 feet (12 m) of rock to meet domestic water requirements although some wells have penetrated up to 150 feet (46 m) of rock, Well 468.

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*Chapman, L.J. and D. F. Putman, 1966, The Physiography of Southern Ontario; University of Toronto Press

Overburden

Ground water in sufficient quantities to meet most private water requirements occurs at a depth of 110 feet (34 m) in the basal sand and gravel aquifer which extends northward beneath the village. Data are too meager to fully outline the areal extent, thickness, and boundaries of the aquifer but based on the available data the following is evident. The aquifer does not extend into the NB area south of the village and appears to be controlled by the hydrogeologic boundary in that area. The areal extent of the aquifer is irregular within the village as shown by the logs of several water wells which do not report that sand and gravel was encountered above the rock. The aquifer is overlain by a clay aquitard averaging 100 feet (31 m) thick. Well log data indicate that the aquifer is thin and that its thickness in the area of the village is variable, ranging from 1 foot (0.3 m) to a maximum of 10 feet (3 m). The aquifer characteristics are known to vary throughout the aquifer. Low yielding wells are common. Three of the municipal fire protection wells (Nos. 423, 437 and 446) were test pumped at 83 gpm (6.3 l/sec.); however, two were pumped at only 5 gpm ← in bedrock (0.4 l/sec.) while an additional well on Rue Gauthier was abandoned because of unsuitable formation.

CHEMICAL WATER QUALITY

Well water samples were collected from selected municipal and domestic wells to determine the chemical quality of the ground water from both bedrock and overburden aquifers. The location of the water wells sampled is shown on Drawing No. 2 and the chemical results of the analyses of the samples are shown in Table 2. The pH of several well water samples was obtained in the field with a hach kit.

Sulphurous, salty and/or mineralized water is commonly found in wells completed in the bedrock. The available data on the chloride concentrations at sample locations is plotted on Drawing No. 2 and shows that the chloride concentration of the ground water increases in a northerly direction. wrong! [illegible] The concentration of chloride in wells completed in the bedrock ranges from 5 mg/l south of St. Isidore de Prescott to 3166 mg/l north of St. Isidore. A sample from well 415 contained 2760mg/l chloride and had a sodium concentration of 1730 mg/l. The deeper a well is drilled into the rock the more likely that poorer quality water will be encountered. A contour map of the concentration of total dissolved solids in bedrock wells shows that the contours parallel approximately the piezometric contours hence the increase in concentration may be a result of the increased duration of contact of the ground water with the rock.

not accurate

Water samples collected from wells completed in the overburden contained concentrations of chloride from 39 mg/l to 1557 mg/l. A comprehensive? sampling program of wells within the village was carried out to establish the hydrochemistry of the aquifer. Five fire protection wells were test pumped for periods up to 10 minutes at high pumping rates. Water samples collected at the commencement and completion of pumping showed that the concentration of chlorides increased from 123 mg/l to 129 mg/l in well 437, from 1515 mg/l to 1557 mg/l in well 445, and decreased from 548 mg/l to 509 mg/l in well 438. The concentration of chlorides in wells 443 and 446 remained essentially unchanged at 57 mg/l, and 64 mg/l, respectively.

after pumping 5 min. - This could be a laboratory error

ditto

ditto

A trilinear diagram was prepared to show the essential chemical character of the ground water according to the relative concentration of its constitutents. The diagram indicated that there are similarities between the waters from the overburden and bedrock aquifers. Thus the waters from the overburden aquifers at depths of 110 feet (34 m) have many of the characteristics of the water obtained from wells completed at depth in the rock. As ground water moves northward it changes from a magnesium and bicarbonate type to a sodium and chloride type.

A fresh water flow system exists in the overburden aquifer as exemplified by the low concentration of chloride, 64 mg/l and 57 mg/l, obtained from wells 446 and 443. However, since salt water is obtained from wells in the same aquifer and from deeper wells completed in the rock it is possible that the ground-water

quality will change with pumping time. We believe that the changes in the normal flow system induced by pumping will create gradients that will cause poorer quality waters to migrate to the wells. This was in part illustrated by the increase in chloride concentration shown in the testing of fire protection
again no significant increase
wells 437 and 445. The water from Wells 445 and 438 which have chloride concentrations of 1557 mg/l and 509 mg/l, respectively, demonstrate that in some areas the quality of the well water can be expected to be poor when considered in light of the Ministry water quality criteria for chloride of 250 mg/l.

FAVOURABLE TEST DRILLING AREA

agree

On the basis of the available hydrogeologic data the overburden aquifer within the village and overlying the bedrock at the depth of 100 feet (31 m) appears to have the best potential to yield large supplies of water. The aquifer is thin, varies in thickness and appears to extend north-eastward from the village. The well logs of some wells have demonstrated a short term potential well yield of up to 83 gpm with no reported drawdown in the well. Any test-drilling program undertaken for the village would therefore be designed to test the suitability and potential of the basal sand and gravel aquifer. However, the chemical quality of the well water, although variable, is generally poor. The chloride concentrations of several wells completed in this aquifer are in excess of ministry criteria and appeared to increase with pumping time.

CONCLUSIONS

It may be concluded that:

agree

1) The bedrock aquifer does not have the potential to yield large supplies of chemically acceptable well water because of the poor geochemical and hydraulic properties of the rock. The available data does not indicate any areas where a higher rock permeability may be expected.

2) The chemical quality of the well water from the bedrock appears to change from south to north, the direction of ground-water movement, with very poor quality waters being obtained from the deep wells north of the village.

3) The overburden aquifer underlying the village may have the potential

agree

to yield large supplies of water but the chemical quality of the water will quite possibly be unacceptable. The well yields from the overburden in and around St. Isidore de Prescott have been shown to be inconsistent, possibly because of the demonstrated variability in the aquifer characteristics, the aquifer thickness and the well designs. The results of the well-water sampling programs show that fresh water and chemically poor ground-water zones exist within the aquifer. (We believe that a large withdrawal from the aquifer from a point source will result in the deterioration in ground-water quality through the migration of poorer quality water to the wells.) Therefore the possibility of developing a well-water supply capable of yielding 229 gpm (17.3 l/sec.) of chemically acceptable water is generally not considered to be good.

agree

NOTE

maybe

Max Day. What if storage provided?

4) We recognize that there is a fresh-water flow system in the overburden aquifer, however, we feel that it may not contain large quantities of chemically acceptable water as indicated by the large numbers of overburden wells which contain high chloride concentrations. However, small withdrawals from individual domestic wells over a larger area might be able to obtain water of an acceptable quality. This has already been demonstrated by the well-water sampling diagram.

?

RECOMMENDATIONS

We recommend that an alternate source of water other than a municipal well water supply source be investigated or that individual domestic wells continue to be used.

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PFM/af
16/7/76

PROJECT CO-ORDINATION BRANCH

GROUND WATER DEVELOPMENT

STANDARD ABBREVIATIONS

Materials

Bldr - boulders
Cl - clay
Gr - gravel
Hp - hardpan
Pbl - pebble
Qsd - quicksand
Sd - sand
Slt - silt
Stns - stone(s)
Ts - topsoil
Cht - chert
Dol - dolomite
Gte - granite
Gnst - greenstone
Ls - limestone
Rk - rock and bedrock
Sh - shale
Sdst - sandstone
Qtz - quartz

Water Use

Ab - abandoned
C - commercial
D - domestic
In - industrial
Irr - irrigaion
M - municipal
P - public supply
S - stock
Th - test hole
Tw - test well

Description

Cem - cemented
Cln - clean
Clr - clear
Cly - clayey
Csc - coarse
Dk - dark
Dty - dirty
Lt - light
F - fine
Fr - fresh
Gry - gravelly
Med - medium
Hd - hard
Lay - layer(s)
Lse - loose
Lge - large
Min - mineral
Sa - salty
Sdy - sandy
Shy - shaly
Slty - silty
Sm - small
Sf - soft
Str - streak(s)
Sty - stony
S - sulphur
Bf - buff
Bk - black
Bl - blue
Bn - brown
Gn - green
Gy - grey
Pk - pink
W - water or water-bearing
Wh - white
Yl - yellow
Ob - overburden

TABLE OF SYMBOLS

GROUND WATER DEVELOPMENT SECTION

●	Drilled well in overburden
⚲	Drilled well in bedrock
⌀	Abandoned drilled well or well site in overburden
⚲̸	Abandoned drilled well or well site in bedrock
♪	Flowing drilled well in overburden
⚲	Flowing drilled well in bedrock
⚲̸	Abandoned flowing drilled well or well site in bedrock
⌀	Abandoned flowing drilled well or well site in overburden
■	Bored or dug well
□	Abandoned bored or dug well or well site
▼	Well point
▽	Abandoned well point or well-point site
⊙	Drilled municipal well in overburden
⊙	Drilled municipal well in bedrock
⊙	Flowing drilled municipal well in overburden
⊙	Flowing drilled municipal well in bedrock
◎	Abandoned drilled municipal well in overburden
◎	Abandoned drilled municipal well in bedrock
◎	Abandoned flowing drilled municipal well or well site in overburden
◎	Abandoned flowing drilled municipal well or well site in bedrock
∘	Test hole
⚑	Spring
⊼	Depth at which water was found

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Table 1 Summary of Water Well Records

ST ISIDORE DE PRESCOTT

Date

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Well No	Location and Elevation	con	lot	Owner	Driller year	Well Type	Well Diameter (inches)	Depth (feet)	Static Level (feet)	Pumping Test (gpm/hrs)	Pumping Level feet	Quality	Use	Remarks, log etc
	KENYON TP													
499	275	IX	29	J. BLANCH	CAYER 66	∅	5	150	—	—	—	DRY	AB	0 gr, stns 4, b150 H r
500	230	IX	36	L. STEWART	FERGUSON etc 62	●	5	112	8	$<1^{3}$	112	FR	S	0 gr; loam 1 b112 H 30-41
1013	215	IX	36	L. STEWART	FERGUSON ETC 68	●	5	37	5	8^{2}	12	FR	D S	0 b37 H 35
1136	225	IL XXI	2	H VILLENOVEAU	CAYER 70	●	6	125	20	10^{1}	70	FR	D S	0 to 2 hp, stn 35 b125 # 124
1189	225	IL XI	6	J. ARKINSTALL	CAYER 70	●	5	109	15	5^{1}	30	FR	D S	0 Du 30 b, rh 109 # 105

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Table 1 Summary of Water Well Records

Date

Prepared by

Well No	Location and Elevation	con	lot	Owner	Driller	year	Well Type	Well Diameter (inches)	Depth (feet)	Static Level feet	Pumping Test (gpm/hrs)	Pumping Level feet	Quality	Use	Remarks, log, etc.
	CALEDONIA														
65	210	VIII	17	V. LEVAC	BOURDON	56	●	5	150	12	3/2	12	FR	D S	0 cl 110 gr 150 # 150
70	280	X	14	HEPCO	FAULKNER	68	⚲	6¼	150	9	1	105	FR SALT	D COM	0 tl dy cl st & 8 sh 12 ls 150 # 12-4 135-150 Filled in 124-150
71	200	X	23	SS #6	BOURDON	59	⚲	5	60	20	4/1	45	SUL	PS	0 cl 26 ls 60 # 50
72	200	X	24	APPLE HILL CHEESE (STADORE LTD)	TRUDEAU	57	⚲	6	126	19	11/1	22	SUL.	D Com	0 cl 83 gr 95 sh 107 # 95 107 ls 126
73	209	XI	20	R. BEAUDRY	CAYER	68	⚲	5	62	12	10/½	15	FR	D S	0 cl gr 5 cl 28 hp 60 # 61 to gr ls 62
74	210	XI	22	B. BESNER	BOURDON	59	⚲	5	48	20	5/1	20	FR	S	0 cl 22 rk 48 # 40
641	225	X	18	R. MAINVILLE	BOURDON	68	⚲	5	65	8	6/1	20	FR.	D S	0 cl 60 rk 65 # 60.
642	220	X	19	A. MAINVILLE	BOURDON	68	⚲	5	63	8	20/1	8	FR	D S	0 cl 59 rk 63 # 59, 62'
643	225	X	17	L. MAINVILLE.	BOURDON	68	⚲	5	75	8	20/1	8	SUL.	D S	0 cl 65 rk 75 # 65
644	200	VII	22	J. DESLORGES	BOURDON	68	●	5	170	16	10/1	20	FR	D S	0 cl 166 hp 170 # 166.
646	215	X	18	R. POURIER	BOURDON	68	●	5	51	3	20/1	3	SALT FR	D S	0 cl 50 gr 57 # 50
647	215	X	20	A. MAINVILLE	BOURDON	68	⚲	5	62	8	20/1	8	FR	D S	0 cl 58 rk 62 # 58

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Table / Summary of Water Well Records

Date

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Well No	Location and Elevation	con	lot	Owner	Driller	year	Well Type	Well Diameter (inches)	Depth (feet)	Static Level (feet)	Pumping Test (gpm/hrs)	Pumping Level (feet)	Quality	Use	Remarks, log etc
	CALEDONIA TP														
648	210	III	19	A LEVAC	BOURDON	68	●	5	82	16	6/1	19	FR	D S	0 cl 75 gr, ld 82 #76
	SOUTH PLANTAGENET														
415	200	XVII	5	O. BOURGON	BOURDON	57	⚲	5	102	34	4	34	SALT SUL	D IND	C sd 5 cl 88 ls 102 #102
416	200	XVII	7	P. LECUYER	BOURDON	56	▼	1¼	90	—	—	—	DRY	AB	C sd 9 cl 90 # —
417	200	XVII	7	E. COUTURE	BOURDON	57	⚲	5	115	34	4	34	FR	S	0 sd 5 cl 93 gr 103 ls 115 #115
645	200	XII	4	S. PELLERIER	BOURDON	68	●	5	180	18	10/1	22	FR	D S	0 cl 170 gr 180 #170
786	200	XII	10	J. LALONDE	ROY.	70	⚲	6	140	90	100/1	40	SUL SALT.	S	C sd 8 cl 100 ls 140 #120 sul 135 s "
413	200	XV	5	PS #9	BOURGEOIS et Co	60	⚲	5	233	40	4½/1	90	SALT SUL	PS	0 loam 20 cl 87 ls 233 #.230-
414	175	XV	7	C. GALIPEAU	BOURDON	56	ø	1	92	—	—	—	DRY	AB	0 sd 12 cl 92 #. —
423	200	XVIII	5	VILLAGE OF SIAP.	BOURDON	55	◉	5.	120	12	83/3	12	FR	MUN FIRE	0 cl 8 cl 115 gr 120 #120 NO. SCREEN
424	200	XVIII	6	L. BERGIER	RANGER	57	⚲	1	102	+12	FLOW	-	FR	D	0 cl 99 gr 100 ls 102 # —
425	200	XVIII	9	BOURGON	RANGER	56	●	1	116	—	—	—	-	S UN-Finished	0 cl 102 sd 108 cl 116 # —

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Table / Summary of Water Well Records

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Well No.	Location and Elevation	con	lot	Owner	Driller	year	Well Type	Well Diameter (inches)	Depth (feet)	Static Level (feet)	Pumping Test (gpm) (hrs)	Pumping Level (feet)	Quality	Use	Remarks, Log etc.
787	200	XVIII	11	B. DESFORGES	ROY	70	●	6	130	20	1 6	60	SALT	S	0 silt 6 cl 84 hp bldr 110 110 gr, bldr 130 * 115
436	200	XVIII	5	V BESNER	BOURDON	56	Ø	1¼	112	—	—	—	DRY	AB	0 cl 11 hp 112 * —
X 437	200	XVIII	5	Village of St-I-de-P	BOURDON	55	◉	5	120	12	2 83	12	SALT	MUN FIRE	0 cl 115 gr 120 * 120 NO SCREEN
438	200	XVIII	5	VILLAGE of St-I-de-P	BOURDON	55	◉	5	116	14	48 5	14	SALT	MUN FIRE	0 cl 112 gr 116 * 116 NO SCREEN
X 443	200	XVIII	5	VILLAGE of St-I-de-P	TRUDEAU	57	◉	5	134	12	16	12	FR	D	0 cl 127 gr 129 sh 134 * 129 NO SCREEN
444	200	XVIII	6	L. PARENT	BOURDON	54	●	1¼	150	—	—	—	DRY	—	0 cl 150 * —
445	200	XVIII	6	VILLAGE of St-I-de-P	BOURDON	55	◉	5	130	13	48 5	13	SALT	MUN FIRE	0 cl 115 gr 130 * 130 NO SCREEN
X 446	200	XVIII	6	VILLAGE of St-I-de-P	BOURDON	56	◉	5	125	9	2 83	9	FR	MUN FIRE	0 cl 115 gr 125 * 125 NO SCREEN
447	200	XVIII	6	G. SEGUIN	RANGER	56	●	1¼	120	18	23 3	18	FR	D	0 cl 119 gr 120 * 120
448	200	XVIII	6	A. LALONDE	RANGER	57	●	1	122	—	—	—	DRY	D	0 cl 122 * —
449	200	XVIII	6	J.L BERCIER	RANGER	57	●	1	100	8	4 7	8	FR	D	0 cl 99 gr 100 * 100
450	200	XVIII	6	S. LALONDE	RANGER	57	●	1	55	18	2 4	30	FR	D	0 cl 55 * 55

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Table / Summary of Water Well Records

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Well No.	Location and Elevation	con	lot	Owner	Driller year	Well Type	Well Diameter (inches)	Depth (feet)	Static Level (feet)	Pumping Test (gpm)(hrs)	Pumping Level feet	Quality	Use	Remarks, log, etc.
[illegible]														
452	200	XVIII	6	CO-OP - CHEESE	BOURDON 59	●	5	110	8	10 33	8	SUL	Com	0 cl98 gr110 # 110.
453	200	XVIII	7	J. MENARD	BOURDON 64	●	5	55	4	8 20	4	FR	COM CHEESE	0 cl54 gr55 # 5
454	200	XVIII	8	H. VILLENEUVE	BOURDON 55	●	5	100	18	1 5	22	SUL.	D S	0 cl75 gr80 rk100 # 100.
455	200	XVIII	11	D. HORMIDAS	BOURDON 54	●	1	54	16	1 4	18	FR	D	0 cl54 # 54
456	200	XVIII	11	R. QUESNEL	BOURDON 54	●	1	34	26	2 3	28	FR	S	0 cl34 # 34
457	200	XVIII	13	H. CAMPEAU	BOURDON 54	●	1	56	16	5 3	18	FR	D	0 cl56 # 55
458	205	XVIII	13	G. LEGEAULT	BOURDON 56	●	1	52	12	3 1	12	FR	D	0 cl52 # 52.
459	205	XVIII	13	G. LEGEAULT	BOURDON 56	●	1	52	12	3 1	12	FR	D	0 cl52 # 52
864	200	XVIII	5	LCBO	CASSELMAN 71	●	6	120	16	3 2	80	FR	Com	0 fill cl115 sd,cl, fgr120 # 115
639	205	XIX	9	J. BOURGON	BOURDON 68	●	5	75	16	20 1	16	FR	D S	0 cl65 rk75 # 66.
640	200	XIX	7	R. FAUBERT	BOURDON 68	●	5	65	15	8 1	15	FR	D S	0 cl64 gr65 # 65
464	200	XIX	11	R. BOURDON	BOURDON 54	●	1	21	9	5 1	12	FR	D	0 cl21 # 21

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Table / Summary of Water Well Records

Date

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Well No.	Location and Elevation	con	lot	Owner	Driller	year	Well Type	Well Diameter (inches)	Depth (feet)	Static Level (feet)	Pumping Test (gpm) (hrs)	Pumping Level feet	Quality	Use	Remarks, log etc
467	210	XX	7	A QUENSEL	RANGER	57	●	1¼	100	15	48 3	75	FR	S	0 cl 100 * 100
468	210	XX	7	L. LALONDE	BOURDON	63	⫯	5	156	9	2 8	9	SUL.	D S	0 cl 6 sl 156 * 150
469	215	XX	11	PS#12 MOOSE CR.	RANGER	57	●	1¾	85	10	8 5	80	FR.	PS	0 cl 84 sd 85. * 85.
E86	215	XIX	13	L. RACINE	BOURGEOIS	71	⫯	5	51	14	1¼ 15	15	FR	D	0 cl 24 sd, gr 28 ls 51 * 50
A	200	XIII	7	M. ST DENIS		70	▼	1¼	110	32	-	-	FR	COM.	0 cl 108 gr 110 ls2 * 110
B	215.	V	18	R. POURIER			▼	1¼							0 cl 50 gr 51
C	200	XIII	6	SYNDICATE WELL		61	◉	3	128	9	83	11	FR.	MUN	0 tpl cl 126 gr 128 ls2 * 126 DRIVE POINT W/SCREEN

MOE 07-048

Ministry of the Environment
Ontario

Table 2 Summary of Water Analyses

Prepared by S Sisson

P1 TOWNSHIP OF S. PLANTAGENET COMMUNITY OF ST ISIDORE DE PRESCOTT

Source and Number	Location	Date Sampled	pH	Colour Hazen Units	Turbidity Units	Specific Conductance mmhos at 25°C	Total Dissolved Solids (ppm)	Total Hardness as $CaCO_3$ (ppm)	Alkalinity as $CaCO_3$ (ppm)	Chemical Constituents in parts per million (ppm)												Remarks
										Chloride (Cl)	Sulphate (SO_4)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potasium (K)	Free Ammonia (N)	Total Kjeldahl (N)	Nitrite (N)	Nitrate (N)	pH in Field	
WELL # 645		AUG 6 1975	6.1	10	2.4	520	490	186	36	58	417	.60	56	11	22	4.0	<.1	.3	.04	18	6.0	
" 786		"	7.8	70	5.4	10,900	6150	666	1002	3166	18	.95	25	146	2190	57	5.1	6.0	<.02	<.2	7.2	
" 415		"	7.8	30	0.85	9,400	5320	594	771	2720	12	.10	40	120	1730	50	4.2	4.6	<.02	<.2	7.5	
" 424		"	8.0	10	1.2	1,130	610	154	297	182	3	.20	36	16	173	12	1.4	1.6	<.02	<.2	7.5	
" 787		"	7.1	15	1.2	1310	805	433	442	106	100	.20	86	53	133	3.0	<.1	.5	<.02	4.8	6.4	
836		"	7.9	30	3.3	1050	810	192	425	206	26	22	29	29	251	13	.9	1.9	<.02	<.2	7.5	
1136		"	8.2	5	0.35	370	240	166	162	5	31	.10	26	25	15	2.5	.1	.3	<.02	<.2	7.5	
446		"	7.9	30	2.2	740	425	198	270	71	16	12.	48	19	79	11	.9	1.3	.26	<.2	7.1	
X " 839pm 423		"	8.5	225	58	590	325	108	203	71	4	57	18	15	89	11	<.1	.5	<.02	<.2	7.5	
X " 839pm 437		"	8.0	125	22	720	400	218	274	61	22	26	53	21	73	10	1.0	1.6	<.02	<.2	7.5	
" 445		"	8.4	100	26	5200	2740	282	421	1469	4	90	21	56	1010	42	5.4	6.2	<.02	<.2	8.2	
" 72		AUG 7 1975	8.4	10	.95	1400	805	41	402	187	35	<.05	5	7	302	10	.8	1.2	<.02	<.2	8.2	

P₂

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Ontario

Table 2 Summary of Water Analyses

Prepared by SS

Source and Number	Location	Date Sampled	✓ pH	Colour Hazen Units	Turbidity Jackson Units	✓ Specific Conductance mmhos at 25°C	✓ Total Dissolved Solids (ppm)	✓ Total Hardness as $CaCO_3$ (ppm)	✓ Alkalinity as $CaCO_3$ (ppm)	Chemical Constituents in parts per million (ppm)												Remarks
										Chloride (Cl)	Sulphate (SO_4)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potasium (K)	Free Ammonia (N)	Total Kjeldahl (N)	Nitrite (N)	Nitrate (N)	pH in Field	
WELL # A		AUG 7 1975	8.1	5	.70	2100	1140	186	337	468	7	.15	30	27	390	22	2.8	3.2	<.02	<.2	7.5	
" B		"	8.3	5	.30	640	400	<1	263	39	18	.05	<1	<1	157	1.0	<1	.3	<.02	<.2	7.5	
" C	SYNDICATE	"	8.3	5	.60	1180	660	187	284	200	17	.10	38	22	177	14	1.6	2.0	<.02	<.2	7.5	
WELL # 445		OCT 28/75	8.1		>1000		4110	324	475	1515	6.	2.68	32	59	1010	51	6.2	8.3	.08	<.2	-	AFTER 1MINS
" 445		"	8.0		215		3350	320	468	1557	5	73	30	57	1030	49	5.7	7.3	<.02	<.2	-	AFTER 5MINS
" 438		"	8.1	60	27		1280	162	331	548	3	4.0	23	25	430	22	3.1	3.4	<.02	<.2	-	AFTER 1MIN
" 438		"	8.1	75	2.9		1210	158	319	509	3	.30	22	25	390	21	3.0	3.3	<.02	<.2	-	AFTER 5 MIN.
" C	SYNDICATE	"	8.0	10	1.2		630	182	29	187	7	.05	38	21	170	14	1.8	2.2	<.02	<.2	-	
" 446		"	7.9	10	4.3		440	208	278	64	17	.60	50	20	73	11	1.2	1.6	<.02	<.2	-	AFTER 1MIN
8390 446		"	8.0	10	1.8		420	206	277	66	18	.20	50	20	70	11	1.3	1.6	<.02	<.2	-	AFTER 10 MINS
443		"	7.9	15	4.6		420	214	277	57	[illegible]	.80	51	17	70	10	1.2	1.6	<.02	<.2	-	AFTER 1MIN

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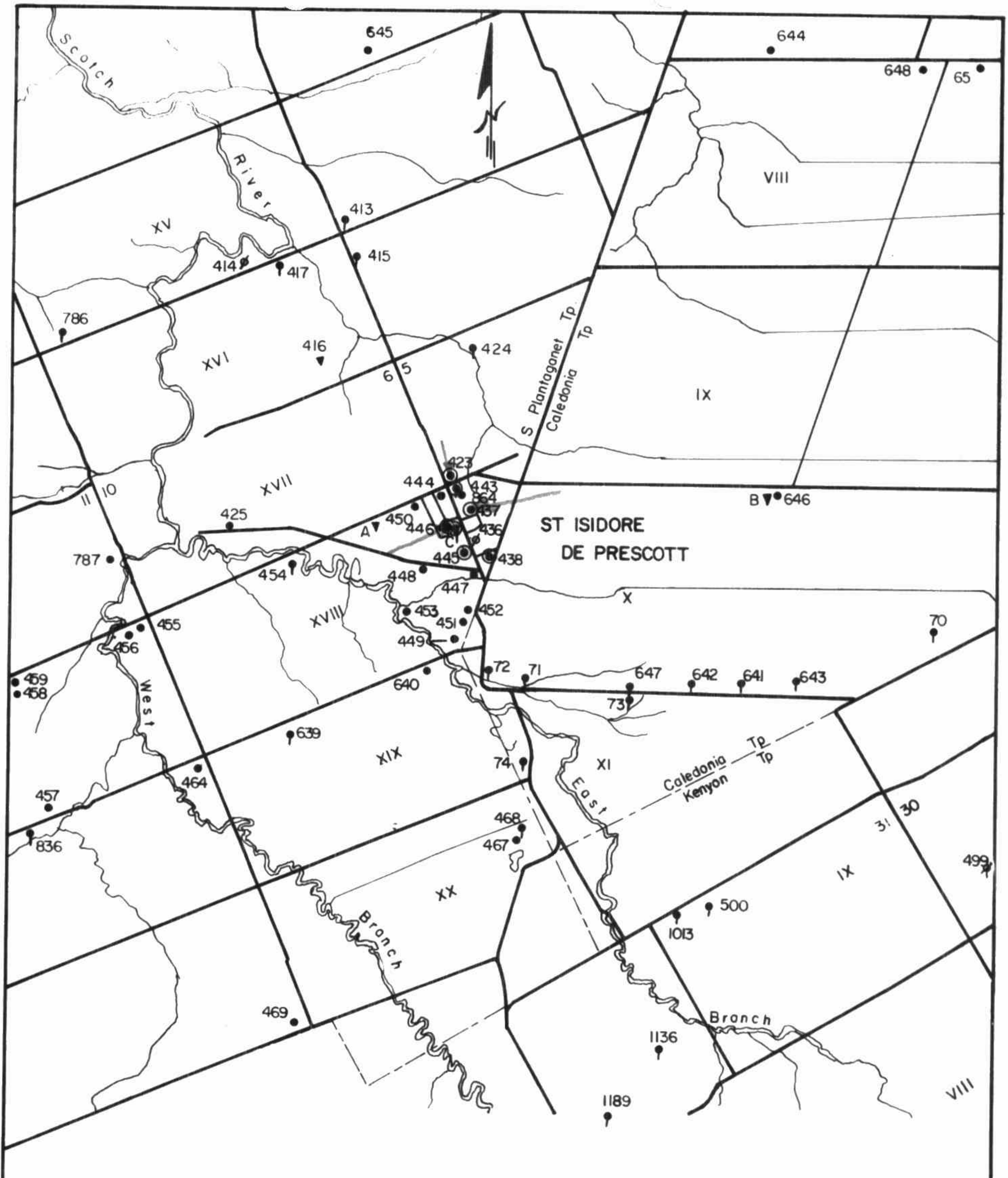
Table 2 Summary of Water Analyses

Prepared by [illegible]

TOWNSHIP OF S. PLANTAGENET COMMUNITY OF ST. ISIDORE DE PRESCOTT

Source and Number	Location	Date Sampled	pH	Colour Hazen Units	Turbidity Jackson Units	Specific Conductance mmhos at 25°C	Total Dissolved Solids (ppm)	Total Hardness as $CaCO_3$ (ppm)	Alkalinity as $CaCO_3$ (ppm)	Chemical Constituents in parts per million (ppm)												Remarks
										Chloride (Cl)	Sulphate (SO_4)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potasium (K)	FREE AMMONIA (N)	TOTAL KJELDAHL (N)	NITRITE (N)	NITRATE (N)	[illegible] IN FIELD	
WELL #443		Oct. 28/75	7.8	10	1.5		415	216	278	56	23	.30	54	.20	58	10	1.2	1.5	<.02	<.2	-	AFTER 5 MIN
" 437		"	8.0		35		533	[illegible]	288	123	5	.26	35	18	130	13	1.8	2.3	<.02	<.2	-	AFTER 1 MIN
" 437		"	8.1	40	58		500	164	286	129	1	14	35	18	130	.4	1.8	2.1	<.03	<.2	-	AFTER 5 MIN



LEGEND

● DRILLED WELL IN OVERBURDEN

⫯ DRILLED WELL IN BEDROCK

▼ SANDPOINT IN OVERBURDEN

⊽ SANDPOINT TO BEDROCK

⌀ ABANDONED WELL

◉ MUNICIPAL WELL

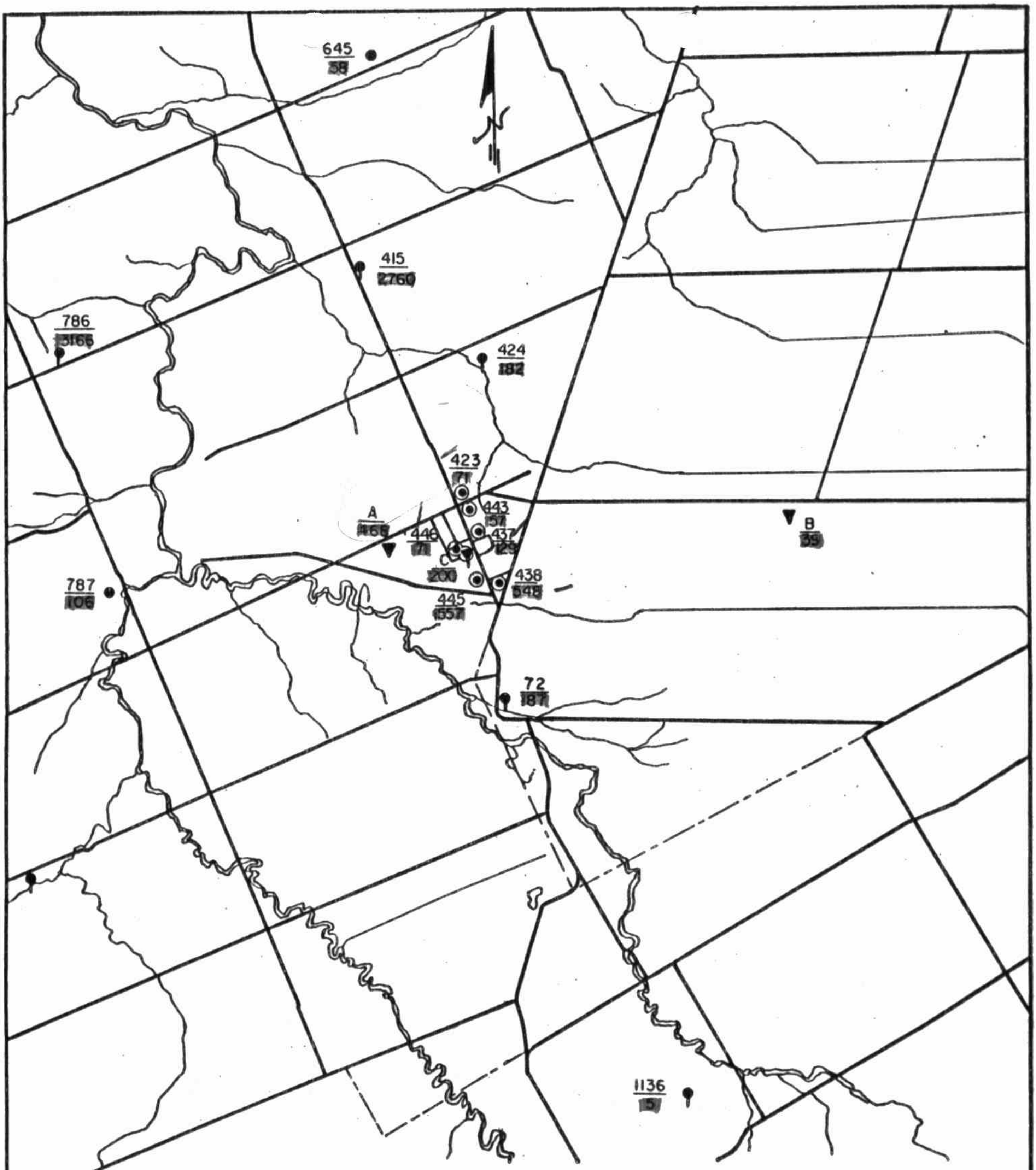
MINISTRY OF THE ENVIRONMENT

Township of South Plantagenet

COMMUNITY OF ST ISIDORE DE PRESCOTT

Location of Water Wells

Date: Aug 75	Scale:	Drawing No
Prepared by: SFS	1 : 50,000	1



LEGEND

●	DRILLED WELL IN OVERBURDEN
♀	DRILLED WELL IN BEDROCK
▼	SANDPOINT IN OVERBURDEN
Y	SANDPOINT TO BEDROCK
ø	ABANDONED WELL
◉	MUNICIPAL WELL
423	WELL NUMBER
71	CHLORIDES (ppm)

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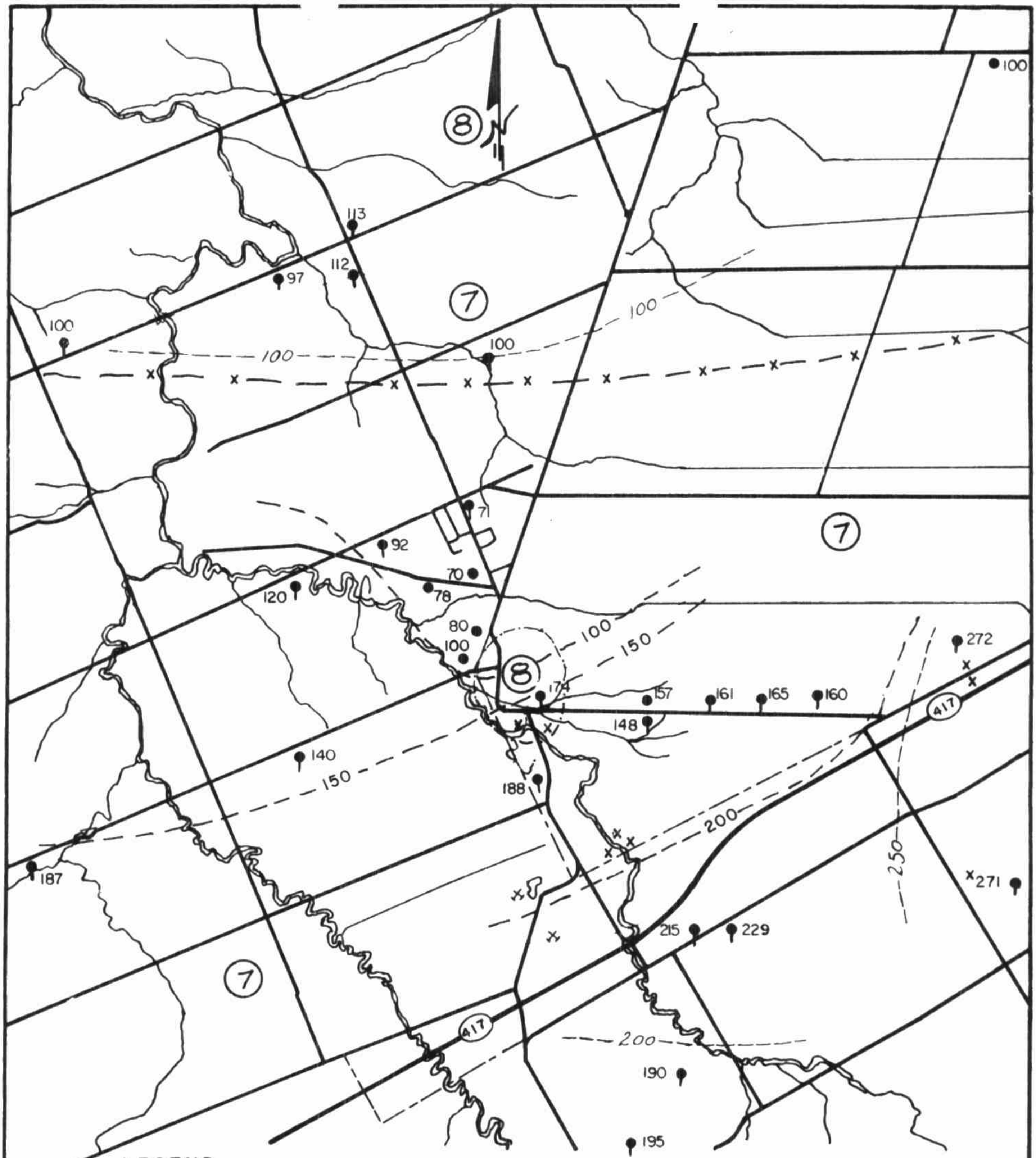
Chloride Concentration at Sample Locations

Date: Aug 75	**Scale:**	**Drawing No:**
Prepared by: SFS	1 : 50,000	2



LEGEND

ꭗ	QUARRY
x	ROCK OUTCROP
⍖ 165	BEDROCK ELEVATION (in feet)
● 157	BOTTOM OF WELL ELEVATION (in feet)
--- 150 ---	BEDROCK ELEVATION CONTOUR (50 ft interval)
—·—·—	GEOLOGICAL CONTACT
—x—x—	FAULT (GSC MAP 852A)

Note
Datum is mean sea level

Palaeozoic Era
Ordovician Period

⑧	EASTVIEW FORMATION = DARK GREY LIMESTONE
⑦	OTTAWA FORMATION = COBOURG BEDS, LIMESTONE

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Township of South Plantagenet
COMMUNITY OF ST ISIDORE DE PRESCOTT

Bedrock Topography
and
Bedrock Geology

Date: Aug 75	**Scale:**	**Drawing No:**
Prepared by: SFS	1 : 50,000	3

DATE DUE

MOE/PRE/GRO/ALRA
McKenna, P F
Village of St.
Isidore de Prescott alra
c.1 a aa

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